RAM through the flow chart end symbol **365**. If the day count is 31 days the answer to "is date=or <than 30 days?" decision **340** is no. In this case the "change present caloric intake value to daily calorie target value" instruction **348** is triggered causing data in the present caloric intake (PCI) register **352** to be replaced with the daily caloric target (DCT) calculation **358**. Therefore, the value of PCI is now 1560.37 calories. Since the DCI and DCT are now the same value the CID equals zero. The calculation is: PCI-(CID ×CTM)=adjusted daily caloric target **360**. Substituting value for adjusted daily caloric target; 1560.37-0=1560.37 caloric input target for the 31st day.

Assuming that the user is a 150 pound semi-active male whose starting daily caloric input is 2300 calories and the personalized hand held calorie computer has been in use 10 days. The calculation is: day count×0.0333=calorie target modifier (CTM) **344**. Substituting values: 10 ×0.0333=0.333 CTM. The DCO of 2137 calories from FIG. 5 is fed through flowchart continuation symbol **366** labeled "FIG. 5, 2" to "3female?" decision block **362** where the answer is no and the daily target (DCT) **358** is used directly. The DCT is subtracted from the present calorie intake (PCI) register **352** to produce a caloric intake difference (CID) value **354** used in the daily adjustment formula **360**. In this case the data in the present caloric intake (PCI) register **352** is the present calorie intake from the personal profile **350** data value. Therefore, the value of PCI is now 2300 calories. Substituting values: 2300-2137=163 daily adjustment. The daily adjustment is subtracted from present caloric intake to derive the adjusted daily caloric target **364**. Substituting values: 2300-54=2246 caloric input target for the 10th day in use which is stored in RAM through the flow chart end symbol **365**.

To calculate the daily fat target in grams again the DCO is used from FIG. 5. The calculation is: DCO×0.035=Daily fat target(grams) **368**. Substituting values; 2137.5×0.035= 74.8 grams. The answer to "4female?" decision **370** is yes. The calculation is: daily fat target×0.73 =women's daily fat target **372**. Substituting values; 74.8×0.73=54.6 daily fat target **374** also stored in RAM through flowchart end symbol **365**. If the user is a male who also weighs 150 pounds the answer to "4female? " decision **370** is no and the daily fat target calculation is used directly.

Summary, Ramifications, and Scope

Accordingly, the reader will see that the personalized nature of this invention ensures that the user always has a dietary and exercise program specifically tailored to him or her. The user's suggested weight, daily calorie output, exercise activity rate, daily caloric intake targets and daily fat intake targets automatically adjust as he/she inputs changes to his/her goals, weight, and lifestyle. In addition, the optional activity sensing devices and odometer attachments allow the personalized hand held calorie computer to automatically record and update the individual's calories burned while exercising. Furthermore, the personalized hand held calorie computer has the additional advantages in that it

permits the user constant access to complete dietary and exercise information in an easy to use hand held computer which would, normally, require cumbersome books; listings; and complicated formulas;

provides the user with personal daily and historical caloric/fat intake, weight and caloric output data in the form of easy to read charts and graphs;

automatically calculates a personal suggested weight specifically based on the user's personal data;

automatically calculates the individual's specific daily caloric output based on his/her personal data;

automatically calculates the individual's specific calorie burning rates based on his/her personal data and the exercise characteristics;

provides quick easy access to food calorie/fat listings from most major restaurant and fast food chain menus in addition to most basic foods;

provides special programming and food listings for unique medical and athletic needs;

provides alarms when the user nears or exceeds his/her daily caloric/fat targets;

provides one time or recurring alarms for personal or medical reasons;

allows the individual to operate his/her personalized hand held calorie computer in complete confidentiality by use of a personal Identification number (PIN);

will be available in English, Spanish, Italian, French, German, and other languages.

Although the description above contains many specifications, these should not be construed as limiting the scope of the invention but as merely providing illustrations of some of the presently preferred embodiments of this invention. For example, the case can have other shapes or configurations such as a unit that opens with the screen and keyboard located on the inside of the covers, a unit that attaches to the wrist, a unit that is small enough to fit in a shirt pocket, etc.

Thus the scope of the invention should be determined by the appended claims and their legal equivalents, rather than by the examples given.

We claim:

1. An interactive personal nutrition and exercise management tool computing device comprising:

(a) a hand held computer case;

(b) a standard electronic computer circuit contained within said computer case, said circuit containing at least a random access memory, a read only memory, a processor and a coprocessor;

(c) a keyboard positioned on said computer case comprising a plurality of standard keyboard buttons including alphabetical characters, numerical characters, predetermined punctuation marks, predetermined mathematical functions, space function, and shift function;

(d) a plurality of standard computer function buttons positioned on said computer case comprising data enter means to store predetermined data in predetermined said random access memory, activation means of predetermined computer functions, a deletion means to remove predetermined data from said random access memory, a reset means to restore predetermined random access memory locations to predetermined values, a menu access means electrically connected to said processor for retrieval of nutrition and exercise menus, a scrolling means electrically connected to said processor to look up screen viewed data in four basic directions, and a quick exit means electrically connected to said processor to initiate instant egress from computer system;

(e) a plurality of special function buttons positioned on said computer case comprising a retrieval means electrically connected to said processor to quickly access predetermined random access memory locations containing predetermined weight, caloric consumption, fat

consumption and caloric output data, and a toggle switch means electrically connected to said processor to start and stop predetermined exercise activity measurements;

(f) a liquid crystal display positioned on said computer case with viewing area adequate to present a plurality of graphs, charts, lists and information gathering screens stored in predetermined said random access memory locations;

(g) a receiving means in said computer case electrically connected to said processor to monitor/store signals from a plurality of exercise activity measurement transmitting devices.

2. The nutrition and exercise management tool computing device of claim 1 wherein said plurality of exercise activity measurement transmitting devices externally located from said computer case connected by a wireless communication means to said receiving means to transfer exercise activity data directly to said processor.

3. The nutrition and exercise management tool of claim 1 wherein a suggested weight calculation comprises;

(a) the coprocessor of claim 1 wherein said suggested weight is derived using predetermined said user personal data.

4. The nutrition and exercise management tool of claim 1 wherein a total caloric output calculation comprises;

(a) the coprocessor of claim 1 wherein a daily at rest caloric output, an activity caloric output and a total daily caloric output are derived using predetermined said user personal data; predetermined exercise caloric burning rates and exercise data from said plurality of exercise input means;

(b) the plurality of exercise input means of claim 1 wherein the exercise input is electrically connected to said coprocessor utilizing an activity, timer or pulse to caloric output conversion means, said exercise calorie burning rate, and predetermined said user personal data to derive exercise activity calories burned;

(c) the coprocessor and random access memory of claim 1 wherein said daily at rest caloric output and said exercise activities calories burned are accumulated to provide daily totals;

(d) the coprocessor of claim 1 wherein predetermined said user personal data is used to derive the user's daily intake caloric and fat targets;

(e) a comparison means to provide a plurality of alarm signals when said caloric and fat intake nears or exceeds the target caloric and fat values.

5. The nutrition and exercise management tool of claim 1 wherein a total caloric intake target calculation comprises;

(a) the coprocessor of claim 1 wherein predetermined said user personal data, and a date started is used to derive a graduated daily intake caloric target during a predetermined adjustment period;

(b) the coprocessor of claim 1 wherein predetermined said user personal data is used to derive a daily intake caloric target after said predetermined adjustment period has elapsed.

6. The nutrition and exercise management tool of claim 1 wherein a total fat intake target calculation comprises;

(a) the coprocessor of claim 1 wherein said total fat intake target is derived using predetermined said user personal data.

7. The nutrition and exercise management tool computing device of claim 1 wherein a menu driven means accesses a

main menu, a setup menu, nutrition/exercise menus and a plurality of computer program functions.

8. The main menu of claim 7 wherein a nutrition menu with a food list comprises;

(a) a list of predetermined food items and a list of respective calories per serving, fat content per serving and size of serving stored in predetermined random access memory locations;

(b) a food selection means connected to said processor to retrieve a food item and its respective calories and fat content per serving size;

(c) the coprocessor and random access memory of claim 1 wherein the consumed food item calories and fat content are accumulated to provide daily totals.

9. The main menu of claim 7 wherein an exercise menu with a list of exercises comprises;

(a) a list of predetermined exercise activities and respective predetermined caloric burning rates stored in predetermined random access memory locations;

(b) an exercise selection means connected to said processor for retrieval of selected exercise activity with respective calorie burning rate;

(c) a plurality of exercise input means including said receiving means, an internal timer means and a manual means.

10. The main menu of claim 7 wherein a total calories subsystem comprises;

(a) a plurality of daily and historical intake calorie, output calorie, input fat and weight charts and graphs retrieved from predetermined random access memory locations presented on said liquid crystal display on demand.

11. The set up menu of claim 7 wherein a date and time subsystem comprises;

(a) a standard clock and calendar program in the computer case.

12. The set up menu of claim 7 wherein a personal profile subsystem comprises;

(a) a plurality of data collection screens and random access memory locations for collecting a user's personal data including age, sex, height, weight, frame size, lifestyle, weight management goals, and present daily calorie intake.

13. The set up menu of claim 7 wherein a password subsystem comprises;

(a) a plurality of password screens, said random access memory locations, and said keyboard to enter or change said password and;

(b) a comparison means to allow access to the computer system when said password matches a personal identification number entered by the user.

14. The set up menu of claim 7 wherein an alarm subsystem comprises;

(a) a comparison and sound generation means electrically connected to a plurality of alarm input screens, said random access memory, the date and time clock, and said keyboard to provide predetermined audible signals and screen messages when predetermined alarm settings match actual dates and times.

15. In a hand held computer having a standard alphanumerical keyboard, a plurality of standard computer function buttons, a liquid crystal display with a plurality of lines and character spaces, a plurality of special function buttons to view caloric data and start and stop exercise activity measurement, a random access memory, a read only memory, a central processing unit, a mathematical copro-

cessor unit, and a plurality of programs to perform required functions, an interactive personal nutrition and exercise management tool computing device comprising;

(a) a menu driven means wherein a main menu, a setup menu, nutrition/exercise menus and said plurality of programs are used to set a password, a date and time clock, a plurality of alarms and to enter a plurality of personal data including a name, a phone number, an address, a sex, an age, a weight, a height, a frame size, a life style and a goal in said random access memory;

(b) said menu driven means wherein said nutrition/exercise menus and said plurality of programs retrieve a food item with its calories and fat content per serving or an exercise activity with its calorie burning rate from a food listing or an exercise listing in said random access memory for presentation on said liquid crystal display;

(c) a plurality of calculation means for producing personalized results including a suggested weight, a caloric input target, a fat input target, a daily at rest calorie output, a modified activity caloric value, an activity caloric output, and a total caloric output using said personal data, said exercise activity inputs, and the clock input;

(d) an accumulation means using the coprocessor and said random access memory to accrue a daily running total of the calories and fat of foods consumed, the calories burned during exercising and a daily caloric output from at rest calculations and to provide a plurality of audible alarms and a plurality of screen messages when the caloric and fat intake nears or exceeds daily said caloric target and or said fat input target;

(e) a status retrieval means for selecting and viewing a plurality of current or historical data including said caloric input, said fat input, said weight, and said caloric output from said random access memory on said liquid crystal display in the form of charts, graphs and other screens formats;

(f) an alarm means for providing a plurality of audible signals and screen messages when the clock output matches the alarm date and time stored in said random access memory;

(g) a wireless receiving means within said hand held computer electrically connected to said central processing unit in such a manner as to convert incoming signals from a plurality of existing wireless remote monitoring devices already in the market comprising of an exercise activity measurement sensor means electrically connected to a wireless transmission means into calories burned in the course of a plurality of activities; whereby a person can view or enter from extensive food caloric/fat listings as well as personally adjusted weight targets, fat input targets, calorie input targets, and manually or automatically inputted activity calorie burning data tracked and viewed on a daily or historical basis in one compact easy to use hand held computer for the purpose of controlling body weight for personal, medical or athletic reasons.

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